

What is claimed is;

1. A map display control apparatus comprising:

a map display control unit that controls a display
5 device so as to display a map on the display device based upon
map display data;

a communication control unit that connects with another
control apparatus via a digital mobile telephone system to
engage in exchange of digital data;

10 a map information transmission unit that transmits
information related to the map currently displayed on the
display device to the other control apparatus via the
communication control unit; and

a map information reception unit that receives
15 information related to the map updated by the other control
apparatus from the other control apparatus via the
communication control unit, wherein:

the map display control unit controls the display device
so as to update the map displayed on the display device based
20 upon the updated information related to the map received at
the map information reception unit.

2. A map information update apparatus comprising:

a communication control unit that connects via a digital
25 mobile telephone system with a map display control apparatus,

which controls a display device so as to display a map on the display device based upon map display data, to engage in exchange of digital data;

5 a map information update reception unit that receives information related to the map currently displayed on the display device from the map display control apparatus via the communication control unit;

10 a map display update data base unit that stores map display data for update related to the map display data utilized by the map display control apparatus;

a map information update unit that updates the information related to the map by using the map display data related to the map display data utilized by the map display control apparatus; and

15 an updated map information transmission unit that transmits the information related to the map updated by the map information update unit to the map display control apparatus via the communication control unit.

20 3. A map information update system comprising:

a map display control apparatus; and

a map information update apparatus, wherein the map display control apparatus comprises:

25 a map display control unit that controls a display device so as to display a map on the display device based upon

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map display data;

a communication control unit that connects with the map information update apparatus via a digital mobile telephone system to engage in exchange of digital data;

5 a map information transmission unit that transmits information related to the map currently displayed on the display device to the map information update apparatus via the communication control unit;

10 a map information reception unit that receives information related to the map updated by the map information update apparatus from the map information update apparatus via the communication control unit; and

the map display control unit being enabled to control the display device so as to update the map displayed on the display device based upon the updated information related to the map received at the map information reception unit, and
15 the map information update apparatus comprises:

a communication control unit that connects with the map display control apparatus via the digital mobile telephone
20 system to engage in exchange of digital data;

a map information update reception unit that receives information related to the map currently displayed on the display device from the map display control apparatus via the communication control unit;

25 a map display update data base unit that stores map

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display data for update related to the map display data
utilized by the map display control apparatus;

5 a map information update unit that updates the
information related to the map by using the map display data
related to the map display data utilized by the map display
control apparatus; and

10 an updated map information transmission unit that
transmits the information related to the map updated by the
map information update unit to the map display control
apparatus via the communication control unit.

4. A navigation system comprising:

a current position detection unit that detects a current
position thereof;

15 a map display control unit that controls a display
device so as to display a map on the display device for road
guidance based upon the current position detected by the
current position detection unit and map display data;

20 a communication control unit that connects with another
control apparatus via a digital mobile telephone system to
engage in exchange of digital data;

25 a map information transmission unit that transmits
information related to the map currently displayed on the
display device to the other control apparatus via the
communication control unit; and

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a map information reception unit that receives information related to the map updated by the other control apparatus from the other control device via the communication control unit, wherein:

5 the map display control unit controls the display device so as to update the map displayed on the display device based upon the updated information related to the map received at the map information reception unit.

10 5. A car navigation system comprising:

a current position detection unit that detects a current position of a vehicle;

15 a map display control unit that controls a display device so as to display a map on the display device for road guidance based upon the vehicle current position detected by the current position detection unit, map display data and map display control information;

20 a communication control unit that connects with an off-vehicle control apparatus via a digital mobile telephone system to engage in exchange of digital data; and

a map information reception unit that receives the map display control information from the off-vehicle control apparatus via the communication control unit.

25 6. A map display control method comprising:

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a map display control step in which a display device is controlled so as to display a map on the display device based upon map display data;

5 a communication control step in which digital data are exchanged with another control apparatus via a digital mobile telephone system;

10 a map information transmission step in which information related to the map currently displayed on the display device is transmitted to the other control apparatus; and

a map information reception step in which information related to the map updated by the other control apparatus is received from the other control apparatus, wherein:

15 in the map display control step the display device is controlled so as to update the map displayed on the display device based upon the updated information related to the map received through the map information reception step.

7. A map information update control method comprising:

20 a communication control step in which digital data are exchanged via a digital mobile telephone system with a map display control apparatus that controls a display device so as to display a map on the display device based upon map display data;

25 a map information update reception step in which

information related the map currently displayed on the display device is received from the map display control apparatus;

5 a map information update step in which information related to the map is updated by using map display data which are stored in a map information update device and related to the map display data utilized by the map display control apparatus; and

10 an updated map information transmission step in which the information related to the map updated through the map information update step is transmitted to the map display control apparatus.

8. A computer-readable computer program product
15 containing a map display control program used in a map display control apparatus, the map display control program comprising:

map display control instructions for controlling a display device so as to display a map on the display device
20 based upon map display data;

communication control instructions for exchanging digital data with another control apparatus via a digital mobile telephone system;

map information transmission instructions for
25 transmitting information related to the map currently

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displayed on the display device to the other control
apparatus; and

map information reception instructions for receiving
information related to the map updated by the other control
5 apparatus from the other control apparatus, wherein:

in response to the map display control instructions,
the display device is controlled so as to update the map
displayed on the display device based upon the updated
information related to the map received in response to the
10 map information reception instructions.

9. A computer-readable computer program product
containing a map information update control program used in
a map information update apparatus, the map information
15 update control program comprising:

communication control instructions for exchanging
digital data with a map display control apparatus, which
controls a display device so as to display a map on the display
device based upon map display data, via a digital mobile
20 telephone system;

map information update reception instructions for
receiving information related to the map currently displayed
on the display device from the map display control apparatus;

map information update instructions for updating
25 information related to the map by using map display data which

are stored within the map information update device and related to the map display data utilized by the map display control apparatus; and

update map information transmission instructions for
5 transmitting the information related to the map updated in response to the map information update instructions to the map display control apparatus.

10 10. A computer-readable computer program product according to claim 8, wherein the computer-readable computer program product is a recording medium on which the control program is recorded.

15 11. A computer-readable computer program product according to claim 8, wherein the computer-readable computer program product is a carrier wave in which the control program is embodied as a data signal.

20 12. A computer-readable computer program product according to claim 9, wherein the computer-readable computer program product is a recording medium on which the control program is recorded.

25 13. A computer-readable computer program product according to claim 9, wherein the computer-readable computer program

product is a carrier wave in which the control program is embodied as a data signal.

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